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***GOVERNMENT PERFORMANCE AND RESULTS ACT OF 1993
PILOT PROJECT***

***THE
NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION***

***FY 1994
PERFORMANCE REPORT***

Prepared by

***the National Highway Traffic Safety Administration
Office of Strategic Planning and Evaluation***

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EXECUTIVE SUMMARY

The National Highway Traffic Safety Administration (NHTSA) is one of only eight pilot projects under the Government Performance and Results Act of 1993 (GPRA) that covers an entire agency. This is NHTSA's first annual performance report on the pilot program and is based on the FY 1994 Performance Plan that was submitted in March, 1994.

We are pleased to report that we have generally met our performance goals for the past year. There were improvements in fatality and injury rates per mile driven and per U.S. resident despite strong economic growth and accompanying increases in exposure to highway risk through increases in travel, population, licensed drivers, and registered vehicles.

Because accident and related data are reported to the public on a calendar year basis, the agency's outcome measures are reported for calendar year 1994. While a fiscal year assessment would be possible, reporting our safety outcome measures on this basis would be confusing to the public. The calendar year 1994 data are based on preliminary estimates because of the time required to receive and process motor vehicle crash records. Program performance measures for the agency's major programs, those that receive significant portions of the agency's budget or that make major contributions to highway safety, are generally presented on a fiscal year basis in this report, because achievement of progress at the program level is tied to fiscal year funding.

Many of the agency's programs have impacts that may not be realized for years or even decades into the future. Thus, the improvement in highway safety in 1994 is a cumulative impact of programs and standards dating back to the 1970's, as well as efforts within the fiscal year.

The FY 1994 report is presented on the basis of NHTSA's program structure as it appears in the Budget of the U.S. Government: Fiscal Year 1994. Performance reports for FY's 1995 and 1996 will be presented using a performance-based structure.

Progress in highway safety must be judged against a backdrop of continuous increases in exposure to risk -- vehicle miles travelled, registered vehicles, license aged population, and population increases and its components. Clear linkages have been established between program activities and highway safety achievements. However, the agency recognizes that while it influences these measures, it does not control them. This report identifies some of the external factors at work in 1994. It also identifies program activities that address existing safety problems.

Key findings of the report include:

- **The motor vehicle fatality rate per 100 million vehicle miles travelled remained at 1.7, despite an increase in vehicle miles travelled of 2.2 percent. The non-fatal injury rate per 100 million vehicle miles travelled decreased 2.2 percent, from 136 to 133.**

- ***Motor vehicle fatality and injury rates per 100,000 population each declined by about 1 percent.***

- ***In 1994, there were 6,316 drivers involved in crashes per 100,000 licensed drivers compared to 6,170 in 1993, an increase of 2 percent; however the fatality and injury rate per licensed driver declined by about 1 percent.***
- ***The alcohol-related proportion of fatalities fell to 42 percent, surpassing the Secretary's 1997 goal of 43 percent, two years ahead of schedule.***
- ***The national average safety belt use rate for front seat occupants of passenger cars increased one percentage point, to 67 percent.***

I. INTRODUCTION

The nation made progress in traffic and motor vehicle safety in 1994, but the remaining challenges are large and complex. In 1994, preliminary estimates indicate a total of 40,400 traffic fatalities, (an increase of 285); 3,132,000 police-reported injuries; and 6,273,900 crashes. Certain risk factors have been reduced: the percent of fatalities in crashes where alcohol was involved has decreased from 57 percent in 1982 to 42 percent in 1994; national safety belt use for front seat occupants has risen from 14 percent in 1983 to 67 percent in 1994; and there were 7.7 million air bag equipped vehicles sold in 1994. However, there are still tremendous risks involved in driving and riding in motor vehicles, and in walking or cycling near vehicles on public roads.

To address the size and complexity of highway crash losses, NHTSA has developed a multi-faceted approach consisting of engineering, enforcement, and education programs. In FY 1994 NHTSA implemented its program with an employment level of 683 full-time equivalent (FTE) staff years and a budget of \$298 million.

Because our resources have been, and continue to be limited, NHTSA has established priorities for addressing the safety issues of greatest need. In FY 1994, NHTSA funded a combination of education and enforcement efforts at the state level and provided technical assistance to the states in their efforts to upgrade their safety belt laws and lower alcohol limits. The agency designed and planned a major initiative, Campaign Safe and Sober, to dramatically lower the involvement of alcohol in highway crashes and to increase the use of safety belts. In calendar year 1994, three states passed Administrative License Revocation laws, one state lowered its blood alcohol limit to .08, and zero alcohol tolerance for youth laws passed in nine states. Safety belt use laws became effective in four new states, three states increased their fines for non-use of belts, and several states toughened their child passenger protection laws. In the vehicle arena, NHTSA made major progress toward protection from head injury in the event of a crash, improved side impact protection for light trucks, and protection of infants and children in air bag equipped vehicles.

New leadership at NHTSA has enhanced a focus on injury control as a public health issue and has initiated unprecedented outreach to new partners in the medical community and in the private and public sectors. There is a considerable amount of momentum in our efforts to reduce motor vehicle crash losses. The money that was invested in NHTSA's programs in FY 1994 will provide benefits well into the next century.

II. Program Categories and Resources Available in FY 1994

FY 1994 activities included provision of grants and technical assistance to states and local communities; distribution of consumer information; research and development in crashworthiness, crash avoidance, biomechanics of injury, and human factors; and regulatory activities for motor vehicle and equipment safety. Our FY 1994 budget by program category was:

<u>Identification code:</u>	<u>Program by activities:</u>	<u>FY 1994 Enacted:</u>	<u>Full Time</u>
		<u>(Dollars in Thousands)</u>	<u>Positions:</u>

Operations and Research: (page 835)
(69-0650-0-1-401)

00.01	Rulemaking Programs	\$10,622	95
00.02	Enforcement Programs	17,801	103
00.03	Highway Safety Programs	40,539	208
00.04	Research and Analysis	49,521	130
00.05	Office of the Administrator	3,490	41
00.06	General Administration	8,280	90
	Total Operations and Research	130,188	667

Highway Traffic Safety Grants: (page 837)
(69-8020-0-7-401)

00.01	Section 402 Formula	\$123,000	
00.02	Section 408 Alcohol Incentive Grants	10,500	
00.03	Section 410 Alcohol-Impaired Driving Countermeasure Grants	25,000	
00.04	Section 153 Safety Belt and Motorcycle Helmet Grants	12,000	
00.05	National Driver Register	3,500	
	Total Highway Safety Grants	174,000	
	Less: Grant Administration Reimbursements	(6,043)	
	TOTAL PROGRAM	\$298,145	

III. 1994 Performance

A. External factors

1. The Economy

Historically, improvements in the economy have correlated with and increases in fatalities on the highway. Following a decline in fatalities between 1972 and 1975, the number increased by 2.2, 5.2, and 5.1 percent for the next three years. The real Gross Domestic Product (GDP) increased in these years by 4.9, 4.5, and 4.8 respectively. Between 1983 and 1984 both fatalities and the GDP increased significantly: the number of fatalities rose 3.9 percent and the real GDP grew 6.2 percent. Since the mid-1980's this correlation appears to have weakened, however recent slight increases in the number of during the early 1990's recovery suggest that the connection still exists.

Exposure factors that increase in an expanding economy are: more driving for entertainment purposes which increases miles driven during high risk, nighttime hours; higher levels of employment that increase the number of miles driven; and greater disposable income that increases driving exposure. The economy in calendar year 1994 had a broad-based expansion with an increase in the real GDP of 4 percent and an increase in real disposable income of 4.3 percent. The unadjusted increase in the GDP was 6.2 percent. At the same time, the consumer price index rose only 2.7 percent, which was the same rate as over the previous three years. Between January and December 1994 the unemployment rate declined 1.3 percentage points. Civilian employment grew by 3.7 million jobs compared to increases of 700,000 in 1992 and 1.7 million in 1993.

The economy in 1994 dramatically improved compared to the beginning of the recovery in 1992. The combination of rapid employment growth and low inflation resulted in one of the best economic performances on record. Compared to this performance, the increase in the number of fatalities and injuries while disturbing, was modest. Based on preliminary estimates, the number of fatalities rose .7 percent in 1994 and the number of injured people rose .2 percent.

2. Population

Total population increased 1.1 percent between 1993 and 1994. Population in the high risk 16 through 19 year old age group increased .9 percent between 1992 and 1993 and 1.7 percent between 1993 and 1994, following a continuous downward trend since 1978. Population in the 20 through 24 age group, also a high risk group for highway safety, continued its downward trend that began in 1982. Overall, the driving age population (≥ 16) increased each year by about 1 percent between 1990 and 1994.

3. Registered vehicles and vehicle miles of travel

The average annual increase in registered vehicles between 1986 and 1993 was 1.7 percent. The increase from 1993 to 1994 was 5.9 percent. The average annual increase in vehicle miles of travel over the same period (1986-1993) was 3.6 percent. The increase from 1993 to

1994 was 2.2 percent based on preliminary estimates. These estimates are based on traffic volume trends and the final number for travel in 1994 will likely increase when complete data is reported by the states in October 1995.

B. Agency Outcome Measures Identified in the FY 1994 Performance Plan

The following goals were presented in the FY 1994 Performance Plan, without specification of targets. Instead, we indicated that our goal was to reduce these measures and that we would report on progress in our FY 1994 report. Four of the five goals -- reduce the rate of fatalities and injuries per 100 million vehicle miles of travel and reduce these rates per 100,000 resident population -- declined between 1993 and 1994. The rate of crash-involved drivers per 100,000 licensed drivers increased 4 percent.

GOAL: Reduce motor vehicle fatality and injury rates per 100 million vehicle miles of travel

- ★ **Fatality rate: CY 1993: 1.7 CY 1994: 1.7**
- ★ **Injury rate: CY 1993: 136 CY 1994: 133**

Data Sources: NHTSA Fatal Accident Reporting System and General Estimates Systems, Federal Highway Administration (VMT). (Note: there was a slight decline in the fatality rate, which is not evident when rounded.)

GOAL: Reduce motor vehicle fatality and injury rates per 100,000 resident population

- ★ **Fatality rate: CY 1993: 15.55 CY 1994: 15.50**
- ★ **Injury rate: CY 1993: 1212 CY 1994: 1202**

Data Sources: NHTSA Fatal Accident Reporting System and General Estimates Systems, U.S. Bureau of the Census.

GOAL: Reduce the driver involvement rate in crashes

**CY 1993: 6,170 crash involved drivers per 100,000 licensed drivers.
CY 1994: 6,316 crash involved drivers per 100,000 licensed drivers.**

Data Sources: NHTSA Fatal Accident Reporting System and General Estimates Systems, Federal Highway Administration (licensed drivers).

Reasons for Increase: The increase in rate was largest for property damage only crashes, (3.0 percent). The rate for drivers in fatal crashes per 100,000 licensed drivers remained the same and the comparable rate for injuries increased 1 percent. However, the fatality and injury rate per licensed driver declined about 1 percent. Preliminary data for outcome measures became available in early March. These data are currently being analyzed to determine what may have caused the increase.

C. FY 1994 Successes in Program Output Measures

Several program output measures were identified in the FY 1994 plan. We have included output measures at the program level for several reasons. Achievement of agency outcome goals hinges on the successful achievement of performance at the program output level and identification of measures at this level provides the linkage between actions and outcomes. Assessment of program performance measures helps managers to focus resources on activities with the highest probability of success, and that make the greatest contribution to agency outcomes. And finally, identification of program measures has given us a head start on performance budgetting. The full listing of major program output measures and FY 1994 achievement appears in Appendix I. Highlights of FY 1994 achievement of program output targets are:

- ★ **The proportion of fatalities that are alcohol related declined to 42 percent. This exceeded by 1 percent, and by a full two years, the Secretary's goal of reduction to 43 percent by 1997.**
- ★ **The average length of time for completing rulemakings in 1994 was 18.6 months. This was a 5 percent improvement over the 1994 target of 19.6 months and represented an 8.8 percent decrease from the 20.4 months in 1993.**
- ★ **Ninety-nine (99) percent of National Driver Register inquiries were answered in less than 7 seconds. The 1994 target was 97 percent. The system was available for inquiries 99 percent of the operating hours and the average response time was less than 4 seconds.**
- ★ **Fifty-nine (59) percent of the 72 petitions on safety standards, granted or denied in 1994, were completed within 120 days. This is an increase of 19 percent based on 1993 completed petitions.**
- ★ **The average elapsed time to conduct a safety defect investigation was 5.3 months, a 13 percent decrease from the 1993 baseline and .4 months below the FY 1994 target.**
- ★ **The drop rate for callers to the operator assisted portion of the Autosafety Hotline decreased to 7.1 percent, a 47 percent improvement from the FY 1993 drop rate of 13.3 percent.**
- ★ **The Research and Development program had an overall initiation and completion rate of 90 percent for tasks and projects compared to a rate of 74 percent in FY 1993, a 22 percent improvement.**

APPENDIX I
Program Output Measures

Highway Safety Grants and Programs
FY 1994 Budget Appendix p. 835, 69-0650-0-1-401.03
and p. 837, 69-8020-0-7-401.01-.05

Section 402 Formula Grants

Under the Section 402 grant program, states receive funds following approval of their annual Highway Safety Plans by NHTSA and the Federal Highway Administration. The activities conducted using Section 402 funds are developed and managed by state governor's highway safety representatives. Section 402 grant money is aimed at providing seed money to the states for initiating effective highway safety countermeasure programs and leveraging expenditure of additional state monies. The National Priority Program Areas in FY 1994 were impaired driving, occupant protection, police traffic services, emergency medical services, motorcycle safety, pedestrian/bicycle safety, traffic records, and roadway safety. Section 402 also provides support for community traffic safety programs. Section 402 funds provide the underpinnings for meeting the Secretary's goals of increasing safety belt use and reducing the involvement of alcohol in fatalities, and for meeting the outcome goals of NHTSA.

Alcohol

The goal of NHTSA's alcohol initiatives is to reduce the number of alcohol-related traffic crashes, fatalities and injuries. The two strategies of the Office of Alcohol and State Programs to achieve reductions in alcohol involvement in crashes are: information and education; and laws, enforcement, and sanctions. The agency assists states in passing priority alcohol laws, including administrative license revocation, .08% blood alcohol concentration for adults, and zero tolerance for youth, through the development of national coalitions, alcohol incentive grants, and technical assistance to states and advocate groups.

Youth and special populations were areas of specific emphasis in FY 1994. National alcohol safety messages were directed at specific high-risk populations. Youth activities included a model youth community demonstration project in Washington, DC and developing and piloting training workshops for local police on underage drinking and driving. Section 403 funds supported these and other research, demonstration projects and safety training programs. In FY 1994, Section 408 and 410 Alcohol Incentive Grants made a major contribution to meeting goals in the reduction of alcohol involvement in crashes and fatalities. In addition, Congress directed that \$ 8 million in Section 402 funds in FY 1994 be earmarked to address under-age drinking and driving. All of the states devoted special attention to the youth alcohol issue; a report describing these efforts was submitted to Congress in February, 1995.

Activities in FY 1994 included legislative initiatives that resulted in the passage of Administrative License Revocation laws in three (3) states, .08 BAC in one state, and zero tolerance for youth laws in nine (9) states; assistance to five (5) states for statewide Impaired Driving Program assessments, bringing the total to 13; public information campaigns (over \$80 million of donated media space) and messages that appeared in National Basketball Association playoff broadcasts and over 90 college basketball and football telecasts; activities focussed on youth; grants to states to implement and evaluate graduated licensing systems for youth; and the annual National Drunk and Drugged Driving (3D) Prevention

Month campaign, in cooperation with our coalition of over 40 public and private sector members.

Goal: By CY 1997, reduce the alcohol-related proportion of fatalities to 43 percent. (Secretarial goal)

Performance Measure: The proportion of highway traffic fatalities that involve alcohol.

1994 Target: 44 percent

- ★ **1994 Achievement: Proportion of fatalities that are alcohol related declined to 42 percent.**

Data Sources: NHTSA Fatal Accident Reporting System

Occupant Protection

The objective of this program is to increase the use of occupant protection systems through greater compliance with state safety belt use and child safety seat laws. The Occupant Protection program consists of four major components: public information and education; belt law compliance; target population education; and evaluation and technology sharing. The FY 1994 program supported states in their efforts to continue to upgrade their occupant protection laws and provide program materials that will help states make law enforcement and public awareness activities a permanent part of their ongoing highway safety efforts. In FY 1994, Section 403 and Section 153 Safety Belt and Motorcycle Helmet Incentive Grant funds contributed to progress in reaching NHTSA's 1997 occupant protection goal of 75 percent belt use.

While no states upgraded their secondary enforcement laws (ticketing for non-use only if driver is stopped for another violation) to primary enforcement laws (ability to ticket just for non-use), secondary laws in four new states became effective in FY 1994. An additional three states increased fines or toughened the provisions of fines. In FY 1993, five states were selected to demonstrate practical methods for conducting closely-coordinated and highly publicized enforcement programs to increase the use of occupant protection devices--Vermont, South Carolina, New Mexico, Oregon and Washington. A sixth state, Indiana, was added in FY 1994. During the 12-month period, January through December, 1994, the following results were achieved:

- ★ **The average belt use increase in the five pilot states was 4-5 percentage points, compared with increases of less than two points in other states.**
- ★ **The increases in belt use in these states prevented an estimated 40 deaths and 450 serious injuries, and resulted in an economic savings of more than \$45 million.**

Other activities included quarterly distribution of information to over 6,000 chiefs of police, sheriffs, other law enforcement executives, training officers, state highway safety offices, and enforcement-related organizations on model enforcement programs to increase belt use, reduce alcohol-related crashes, and participate in Campaign Safe & Sober; development of a viewer active officer training program; outreach activities to community-based Hispanic organizations to help develop a national agenda for Hispanic traffic safety initiatives and projects such as the El Protector program; a series of meetings with national

organizations to focus efforts on increasing safety belt use and decreasing underage drinking and impaired driving among the high-risk teen-age population; development of an outreach program to increase safety belt and child safety seat use among Native Americans; and development of a continuing education program for practicing physicians through the American Medical Television Network.

Goal: By CY 1997, increase safety belt use nationwide to 75 percent. (Secretarial goal)

Performance Measure: Percent of front seat vehicle occupants wearing safety belts.

1994 target: 68 percent

1994 Achievement: December 1994 rate of 67 percent compared to December 1993 rate of 66 percent (Trend: continuous increase from 14 percent in 1983; a 1.5 percent increase from 1993)

Data Sources: Population-weighted, state observational use surveys.

Barriers to meeting the target: Continued resistance to periodic highly-publicized law enforcement and to upgraded state safety belt legislation; slackening of interest and activity following high levels of activity that were present during the "70% by '92" national safety belt program. (Many states devoted much of 1994 to preparing for the introduction of the new national initiative, Campaign Safe & Sober, which was launched in October 1994.)

National Driver Register

The National Driver Register (NDR) is a computerized index of state reports on driver histories. Using this system, states can routinely check driver license applications to screen for potential problem drivers -- those with a suspended or revoked license or with a history of driving problems -- to prevent unsafe drivers from receiving a license. NHTSA's FY 1994 objective was to implement the new Problem Driver Pointer System (PDPS). In FY's 1992 and 1993, the NDR program provided states with technical assistance grants to convert to the new system.

In FY 1994, NHTSA completed all testing and implemented the PDPS control system, conducted training for all states, and provided grants to states to assist their PDPS implementation. The first states became operational in the fourth quarter of 1994.

Goals: Implement PDPS in all states and answer all PDPS interactive inquiries within 7 seconds.

Performance Measures: 1) Number of states fully operational under the new PDPS; 2) proportion of PDPS inquiries that are answered in 7 seconds or less.

FY 1994 Targets:

- 1) Seventeen states fully operational under the new PDPS (1993 baseline: 0 states)**
- 2) 97 percent of PDPS inquiries answered in 7 seconds or less.**

FY 1994 Achievement:

- 1) **Two states fully operational under the PDPS, and 25 were testing their systems.**
- ★ 2) **Ninety-nine (99) percent of NDR inquiries were answered in less than 7 seconds. The system was available for inquiries 99 percent of the operating hours. The average response time was less than 4 seconds.**

Data Source: National Driver Register Program records.

Barriers to meeting target: The states have until April 30, 1995, to become fully operational PDPS states. Under the provisions of the legislation, states may apply for extensions. It appears that many states will be operational PDPS states by that date and that most will be operational by the end of FY 1995. State delays have been caused by state staff reductions, budget limitations, and reorganization of state record functions.

Emergency Medical Services Program

NHTSA's Emergency Medical Services (EMS) program encompasses research, technical assistance, demonstration projects, and development of training standards for emergency medical technicians. NHTSA's statewide EMS technical assistance program assists states in developing comprehensive EMS systems, including trauma care systems. NHTSA works closely with the state Highway Safety and EMS Offices to assess state EMS systems according to 10 standards of excellence. These standards encompass legislation, resources and training, facilities and communications among other things. All of these standards relate in some way to quality and effectiveness of the overall EMS system in reducing injuries and death.

Activities in FY 1994 included completion of EMS Assessments in 44 states and Development of Trauma Systems (DOTS) seminars in 25 states; development and promotion of a public information and education campaign in English and Spanish, "Make The Right Call;" completion of the EMT-Basic and Emergency Vehicle Operator's Course-Ambulance National Standard Curricula; initiation of a project to identify the role of EMS professionals in injury prevention and control; and initiation of work on a Memorandum of Understanding between DOT and DHHS.

Goal: By CY 1997, achieve a reduction in preventable mortality of 10 percent nationwide, through implementation of comprehensive emergency medical service systems, including systems of trauma care.

Performance Measure: Reduction of preventable mortality (fatalities that are potentially savable with appropriate response and medical treatment) as measured by preventable mortality studies.

FY 1994 Target:

1) Progress toward Goal

**2) Number of preventable mortality studies supported by the NHTSA program
(Baseline: 2 studies initiated in FY 1993)**

FY 1994 Achievement:

★ **1) Preventable mortality reduced from 25 to 17 percent based on a state study of rural preventable mortality.**

2) One preventable mortality study completed.

Data Source: NHTSA Office of Enforcement and Emergency Services.

**Safety Performance Standards
(formerly Rulemaking Programs)
FY 1994 Budget Appendix p. 835, 69-0650-0-1-401.01**

Motor Vehicle Standards

NHTSA issues Federal Motor Vehicle Safety Standards (FMVSS) to ensure that the public is protected against unreasonable risks of crashes occurring and unreasonable risks of injury or death when crashes do occur. The efficiency and timeliness with which we perform rulemaking tasks and issue final rules will affect how soon the benefits will accrue to the public. Therefore, we have tied our measures for this program to these process factors.

FY 1994 activities included: publication of an ANPRM (Advance Notice of Proposed Rulemaking) addressing the need for additional brake performance standards for passenger vehicles; publication of an NPRM (Notice of Proposed Rulemaking) extending dynamic side impact testing to light trucks and vans (LTV's); publication of a final rule on improved safety belt fit; publication of a notice reporting on the agency's efforts to find a vehicle-based approach to rollover stability; work on a final rule for increased head protection in crashes; and publication of an NPRM to permit installation of an air bag cut-off for passenger side air bags in vehicles having only one row of seats to prevent the potentially dangerous interaction of rear facing child seats and deploying air bags. The agency also issued a rule requiring rear facing child seats to be labeled with a warning about using them in front seats where occupants are protected by air bags.

Performance Measures: 1) Average length of time to complete rulemakings; 2) percent of petitions granted or denied within 120 days of receipt.

FY 1994 Targets:

1) Reduce the average length of time to complete rulemakings to 19.6 months (Trend: 1992: 21.8 months, 1993: 20.4 months).

2) Increase the percent of petitions granted or denied within 120 days to 60 percent (Trend: 1992: 51%, 1993: 40%).

FY 1994 Achievement:

- ★ **1) The average length of time for completing rulemakings in 1994 was 18.6 months. (Periodically, the agency reviews the rulemaking process to look for ways to speed up the process. As a result of this assessment and Clinton Administration reforms, the agency no longer needs to clear all of our rulemakings through OST and OMB. This streamlining has saved the agency time in the clearance process for rulemakings.)**
- ★ **2) Of the 72 petitions granted or denied in 1994, 59 percent were completed within 120 days. This is an increase of 47.5 percent based on 1993 completed petitions.**

Data Source: NHTSA Office of Safety Performance Standards tracking system.

New Car Assessment Program

The New Car Assessment Program was established in response to a requirement in the Motor Vehicle Information and Cost Savings Act of 1972 to provide consumers with a measure of the relative crashworthiness of passenger vehicles. Each year, a selection of new vehicles are subjected to frontal crash tests at 35 miles per hour into a fixed barrier. Measurements are taken in the head, chest, and upper leg on two instrumented crash dummies positioned in the front seat; all available restraints are used, e.g., air bags, safety belts. The number of vehicles tested is dependent on annual funding levels. To better serve the needs of its customers, in FY 1993 and FY 1994, the program developed and published a new rating system to indicate the results of these tests, and initiated a customer outreach program. Since 1979, frontal impact tests have been completed on 372 passenger cars and 113 light trucks, vans, and multipurpose vehicles.

Thirty-nine vehicles were tested in FY 1994. For model year (MY) 1995 vehicles, information was available on 48 makes and models at the beginning of the model year (end of FY 1994). Data for the full year will represent information on approximately 80 percent of the new vehicles sold. Test results from NCAP have shown significant improvements in potential occupant safety in the frontal crash condition. Based on focus group studies and media comments, a simplified "star rating" format was introduced for the FY 1994 press releases. The star ratings are based on the combined probability of severe injury to the head and chest. In addition to the new simplified format, several promotional activities were done in FY 1994 and four town meetings were held to obtain information on what safety information consumers want and how best to provide the information needed.

Performance Measures: 1) Number of vehicles tested, timely completion of test program; 2) number of new actions taken to reach consumers.

Relationship of NCAP to Agency Outcomes: The results of the "real-world" analysis of NCAP data indicate a statistically significant correlation between "good" performing

vehicles in the NCAP test and reduced fatality risk in the "real-world." The analysis shows that there may be as much as a 30 percent reduction in the fatality risk for restrained drivers of "good" cars. In addition to the FY 1994 report to Congress, these findings were published in an extensive NHTSA technical report and in the proceedings of numerous technical conferences in FY 1994.

FY 1994 Targets:

1) Complete tests on 39 new vehicles; complete model year 1994 tests by May 31, 1994. (FY 1993 baseline: 37 vehicles tested; Trend: previous years' tests were not completed until July or August)

2) Complete at least 57 percent of actions (4 out of 7) to promote the program and reach consumers. (No baseline; new program)

FY 1994 Achievement:

★ 1) The FY 1994 New Car Assessment program testing of 39 vehicles was completed on May 25, 1994.

★ 2) Four actions were completed to reach more consumers and to increase the timeliness of dissemination of information. (On May 13, 1994, a conference was held in Denver, CO. and the New Car Assessment Program was used as the discussion model. The theme of the conference was "Reaching Diverse Consumers"; a video news release and radio public service announcements were created and aired promoting the program; an automatic FAX dissemination service was established that can transmit test results 24 hours a day, seven days a week; New Car Assessment Program test results have been placed on nationwide electronic bulletin boards, such as "Prodigy," and are updated instantly as press releases are issued.)

Data Sources: NHTSA Office of Market Incentives tracking system and number of Auto Safety Hotline inquiries and news articles.

Note on Side Impact Crash Testing - NCAP

The President's FY 1994 (and FY 1995) budget submittal included funding for side impact testing in the New Car Assessment Program. This would have enhanced the agency's ability to assess the performance of its side impact standards, but the funding was not appropriated.

Safety Assurance
(formerly Enforcement Programs)
FY 1994 Budget Appendix p. 835, 69-0650-0-1-401.02

Defects Investigation Program

The objective of the Defects Investigation Program is to identify and remove from the nation's highways vehicles and items of motor vehicle equipment with safety-related defects. The program obtains data from consumers on potential defects, performs tests and surveys, and conducts detailed investigations to identify safety risks. When unreasonable safety risks are identified, efforts are initiated to have the vehicles or equipment recalled by the manufacturer and the problem(s) corrected.

From the inception of the National Traffic and Motor Vehicle Safety Act in September 1966, to December 31, 1994, 173.3 million vehicles were recalled in 4,847 recall campaigns to correct safety defects. The Defect Investigation Program has directly influenced 760 recall campaigns involving 100.5 million vehicles.

Between January 1, 1994 and December 31, 1994, a total of 137 defect investigations were opened and 107 closed. Five recall campaigns, involving 104,375 vehicles, were conducted to remedy safety-related defects in safety belt systems. This helped to ensure that the safety benefits associated with the agency's priority program to increase safety belt use would be realized. Three recall campaigns, involving over 310,559 child safety seats, were conducted to correct safety-related defects. These actions are consistent with the agency's belief that special efforts should be made to provide safe transportation to the future generation.

Between

January 1, 1994 and December 31, 1994, six million vehicles were recalled for safety defects, with 58 percent of this total influenced by NHTSA defect investigations.

Goal: Removal of unsafe vehicles and equipment and corrective actions taken.

Performance Measure: Average elapsed time to conduct a safety defect investigation.

1994 Target: Reduce the average elapsed time to conduct a safety defect investigation to 5.7 months, a 5 percent reduction. (1993 Baseline: 6.0 months)

- ★ **1994 Achievement: The average elapsed time to conduct an investigation was 5.3 months a 13 percent decrease from the 1993 baseline and .4 months below the FY 1994 target. The Defects Investigation Program opened 139 investigations during calendar year 1994.**

Data Sources: NHTSA Office of Defects Investigation computerized defect investigation tracking system.

Auto Safety Hotline

The Auto Safety Hotline provides a toll-free, automated mechanism for consumers to request motor vehicle and highway safety information. It also provides a means for consumers to report safety-related problems with motor vehicles and items of motor vehicle equipment. These reports supply important data used by the agency in its defects investigation program.

In FY 1994 the Auto Safety Hotline computerized data system reported 521,581 calls, a 5 percent increase over FY 1993. Between October 3, 1994 and December 31, 1994, the new fax-on-demand system has handled 20,654 hotline caller requests for our most popular fact sheets and auto safety information.

Goal: To efficiently provide timely, high quality customer service.

Performance Measure: Improve customer service by reducing the percentage of callers who hang up without getting service.

FY 1994 Targets:

- 1) Reduce "dropped calls" to the automated portion of the Hotline by 5 percent (FY 1993 baseline: 13.2 percent drop rate).**
- 2) Reduce "dropped calls" to the operator-assisted portion of the Hotline by 5 percent (FY 1993 baseline: 13.3 percent drop rate).**

1994 Achievement:

1) The drop rate for the automated portion of the Hotline was 15.0 percent, a 14 percent increase over FY 1993.

- ★ **2) Decrease of the drop rate for the operator assisted portion to 7.1, a 47 percent improvement from the FY 1993 rate.**

Data Sources: Auto Safety Hotline computerized tracking system.

Barriers to Achieving Target: There were 521,581 calls to the Hotline during FY 1994, a 5 percent increase over FY 1993. The total number of calls was near the capacity of the system and the telecommunications hardware experienced several failures that were significant enough to increase the hang-up rate for the automated portion of the Hotline. If the number of calls exceeds the capacity of the system on a frequent basis, the number of dropped calls rises at a disproportionate rate; this can be related to media coverage of motor vehicle and highway safety issues at specific points in time.

Plans and activities were initiated in FY 1994 to increase the capacity of the Hotline to handle one million calls annually by the end of FY 1996. These plans included identifying the number of Hotline operators that would be needed, and promotional activities.

Federal Motor Vehicle Safety Standards Compliance Testing

The Office of Vehicle Safety Compliance conducts a yearly test program to determine whether certified motor vehicles and motor vehicle equipment meet all requirements of applicable Federal Motor Vehicle Safety Standards (FMVSS). Critical compliance test programs are for child safety seats (FMVSS 213) and vehicle occupant crash protection (FMVSS Nos. 208, 214, and 301).

Since the inception of the National Traffic and Motor Vehicle Safety Act in September 1966, through December 1994, 3,347 investigations for possible noncompliance were initiated, of which 3,292 have been completed and closed. During the period September 1966 through December 1994, 1,388 safety standard noncompliance recall campaigns were initiated, involving 10.5 million vehicles and 20 million equipment items. Of these, NHTSA influenced 565 recall campaigns involving 5.9 million vehicles and 17.7 million equipment items. Civil penalties collected for Safety Act violations total \$3,812,250. During the period December 1985 through December 1994, NHTSA collected \$342,486,345 in corporate average fuel economy (CAFE) fines for vehicles not meeting CAFE standards covering model years 1983 through 1995.

The agency's FY 1994 testing of vehicles for compliance with Federal Motor Vehicle Safety Standards resulted in recalls of: 175,559 child restraint systems, 80,000 vehicles due to frontal impact failure, 900 vehicles due to side impact failure, and 124,200 vehicles for fuel system integrity failure. Some investigations involving FY 1994 test failures are currently in progress.

Goal: To bring vehicles and equipment into compliance with FMVSS.

Performance Measure: Timely completion of all testing within the model year of production.

FY 1994 Targets:

- 1) Complete all child safety seat compliance testing by June 15, 1994;**
- 2) Complete all vehicle occupant crash protection compliance testing by July 1, 1994**

FY 1994 Achievement:

- 1) Child safety seat compliance testing was completed by June 30, 1994.**
- 2) Vehicle occupant frontal crash protection testing was completed by August 11, 1994;**
occupant side crash protection testing was completed by July 20, 1994.

Data Sources: NHTSA Office of Vehicle Safety Compliance test reports and dates completed.

Barriers to Achieving Targets: The 15 day delay in completing child safety seat testing resulted from coordination activities related to other Safety Assurance tests being conducted by the same contractor lab. Tests of certain child restraints, which are an integral part of the seats of some vehicle models, were included as part of the FMVSS 208 test program. Because of delays in performing certain FMVSS 208 compliance tests, some child restraint system tests were delayed.

The frontal impact tests were delayed 41 days due to delays in obtaining vehicles and

scheduling changes at the contractor's test facility. Side impact tests were delayed by the failure of the contractor lab to perform in accordance with contract requirements. By working cooperatively with the replacement contractor, testing was completed only 19 days later than the projected completion date.

Research and Analysis
FY 1994 Budget Appendix p. 835, 69-0650-0-1-401.04

Office of Crash Avoidance Research

NHTSA's Office of Crash Avoidance Research program is aimed at improving motor vehicle safety by reducing the frequency and/or severity of crashes through improved driver performance, driver-vehicle compatibility, and vehicle response. It encompasses general crash avoidance issues, research on heavy vehicles, the Intelligent Transportation Systems (ITS) program, and the National Advanced Driving Simulator (NADS) program. The ITS component is designed to demonstrate that improved crash avoidance can be achieved through intelligent vehicle technologies and to ensure that no loss in safety results from the incorporation of new technologies into vehicles. The NADS program will develop a state-of-the-art driving simulator facility to support a variety of research needs.

FY 1994 accomplishments include: initiation of two competitive design contracts for the NADS; completion of analyses and publication of a series of problem identification reports characterizing the problem size and causal factors for the following crash types - rear-end, backing, lane change, single-vehicle run-off-road, three different types of intersection crashes, and crashes involving drowsy drivers and reduced visibility; initiation of five cooperative agreements with industrial partners to accelerate the development of enabling technologies and/or collision warning/avoidance products; completion of a Congressional report, "A Study of Commercial Motor Vehicle Electronics-Based Rear and Side Object Detection Systems;" completion, publication and widespread dissemination of a preliminary human factors guideline document for designing crash warning systems; completion of an assessment of technology alternatives for an automated collision notification system; and solicitation for operational tests of Adaptive Cruise Control and Automatic Collision Notification systems.

Goal: To improve motor vehicle safety by conducting research aimed at reducing the frequency and severity of crashes.

Performance Measures: 1) Completion of project tasks anticipated in the Fiscal Year Budget Execution Plans; 2) Research reports/papers and analyses completed; 3) Response to short-term rulemaking needs.

FY 1994 Targets:

1) Initiate 22 new contracts/tasks; complete eight (8) contracts/tasks (FY 1993 baseline: initiation: 19 targeted, 14 accomplished (74%); completion: three (3) targeted, two (2) completed (67%).)

2) Contractor reports published; technical papers published: no targets specified; will report at end of FY (FY 1993 baseline: seven (7) contractor reports, four (4) technical papers published.)

3) Responses to short-term rulemaking needs: no target specified because needs are unanticipated; will report at end of FY (FY 1993 baseline: two (2))

FY 1994 Achievement:

★ 1) Initiated 20 of the planned 22 new contracts/tasks (91%) and completed all of the contracts/tasks (100%) scheduled for completion.

★ 2) Published 13 contractor reports, nine (9) staff technical papers/reports, and 18 presentations were made by Office staff at national and international professional meetings. This ensured widespread dissemination of the results of Office programs.

3) No requests were received by the Office of Crash Avoidance Research from the Office of Safety Performance Standards in FY 1994. The office did complete two research efforts that were requested in FY 1993 - (1) evaluation of the masking of turn signals by high intensity daytime running lights (DRLs) and (2) signal light differences.

Data Sources: NHTSA Office of Crash Avoidance Research; Research Program Plan

Office of Crashworthiness Research

The Office of Crashworthiness Research program consists of two major programs: Safety Systems Research and Development, and Biomechanics Research. The Safety Systems research component seeks to advance scientific understanding of crash injury problems and injury prevention strategies for crashes that occur frequently. The program analyzes real world crash injuries, crash tests vehicles, and develops cost beneficial injury countermeasures. The biomechanics program studies injury mechanisms through analysis of medical and engineering data on injuries, computer modeling, laboratory testing, and the development of crash test dummies.

In FY 1994 research was completed to support agency rulemaking activities for upper interior head protection and side impact protection for light trucks and vans. Analysis was undertaken to determine how fatalities and injuries are occurring in air bag equipped cars, and cooperative research was initiated to develop improved air bag systems. Additional research was conducted on side impact crashes, a significant and dangerous crash mode. The safety of alternative fuel vehicles also was examined.

NHTSA planned and subsequently participated in an international symposium on head injury research which brought together experts from a dozen countries around the world, in the prevention, treatment, and rehabilitation of head injury. This has opened up many channels for collaborative research. The biomechanics program also released research results on safety belt injuries, brain injury, and chest injuries, and initiated testing for side impact safety. Injury studies examined the real world experience of air bag and safety belt injuries.

Goal: To prevent deaths and injuries in crashes through research, development, testing, and evaluation programs that improve the crashworthiness performance of vehicles.

Performance Measures:

- Plans;**
- 1) Completion of project tasks anticipated in the Fiscal Year Budget Execution**
 - 2) Research reports/papers and analyses completed;**
 - 3) Responses to short-term rulemaking needs.**

FY 1994 Targets:

- 1) Planned project tasks in FY 1994: 52; anticipated completion: 75%;**
- 2) Number of reports/papers and analyses completed will be reported at end of the Fiscal Year;**
- 3) Number of responses to short-term rulemaking needs will be reported at end of the Fiscal Year.**

FY 1994 Achievement:

- ★ 1) Forty-six (46) of the 52 planned tasks were initiated for a completion rate of 88 percent.**
- ★ 2) Twenty-eight research reports/papers and analyses were completed and released.**
- ★ 3) Response to eight (8) requests from Safety Performance Standards for short-term rulemaking needs.**

Data Sources: NHTSA Office of Crashworthiness Research.

National Center for Statistics and Analysis

The National Center for Statistics and Analysis (NCSA) collects and analyzes crash data bases to support highway safety problem identification; regulator, enforcement, and research initiatives; behavioral modification programs; and program evaluation. These data are the primary source of information on motor vehicle and highway safety for internal external customers. The performance measures for this program focus on the creation of large-scale electronic data bases and responses to customer requests for data and analyses.

The data collected and analyzed by NHTSA is held up as a standard by many government agencies and private entities. The Fatal Accident Reporting System is especially noteworthy as it contains detailed information on a census of fatalities resulting from traffic crashes in the 50 states, the District of Columbia, and Puerto Rico. This data file is publicly available and is used in agency analyses and publications. In FY 1994, NCSA coordinated with the federal Highway Administration to expand their Trucks in Fatal Accidents (TIFA) file, a motor carrier safety activity to identify and develop safety programs for large trucks.

For the agency's non-fatal injury analyses, NCSA collected and coded over 48,000 police crash reports for the NASS General Estimates System (GES) and investigated and coded detailed, in depth data on over 5,000 crashes involving passenger cars, light trucks and vans in the NASS Crashworthiness Data System (CDS). These files also are made available to the public. CDS is an essential data source for regulatory actions on light truck side crash protection, passenger vehicle rollover crash protection, interior head injury protection, door retention components, and seat strength. NHTSA data provides in depth injury information on air bag and automatic safety belts to support research and regulatory initiatives and provides the only data available on pre-crash maneuvers for the Intelligent Transportation System (ITS).

Data analyses performed in FY 1994 included: support for upgrade of occupant side impact protection; anti-lock braking system effectiveness; an evaluation of the effects of blood alcohol laws; evaluation of the safety issues of right turn on red; support of a highway rail grade crossing action plan; regional analysis of safety; research on the fires in truck side impact crashes; and analysis of rear door ejection in mini-vans. In addition to producing a variety of publications and conducting analytical projects, the data analysis program provides information services to agency and departmental program offices, the general public, the U.S. Congress, state and local traffic safety offices, citizen advocacy organizations, the automotive industry manufacturers, and international safety organizations.

Goal: To provide high quality products in a timely manner in response to the data needs of internal and external customers.

Performance Measures: 1) Collect data and create electronic data sets in a timely manner for NHTSA Fatal Accident Reporting System (FARS), National Accident Sampling System (NASS) General Estimates System (GES), and NASS Crashworthiness Data System (CDS); 2) service the data and analytical requests from internal customers (e.g. rulemaking, research and development) and external requests (e.g. other Federal agencies, interest groups, individuals).

FY 1994 Targets:

1) Meet schedule for data systems:

1993 FARS data base created by July 1994

1993 NASS GES data base created by August 1994

1993 NASS CDS data base created by September 1994

2) Since this is a customer service program, the number of analyses and responses to data requests cannot be predicted at the beginning of each Fiscal Year. However, we will report on the total number of responses to internal and external customers in our FY 1994 Performance Report.

FY 1994 Achievement: In FY 1994, all performance targets were met or exceeded, including the following:

- ★ ***1) NCSA created the agency's 1993 automated data bases as follows:***

Fatal Accident Reporting System - June 1994

NASS Crashworthiness Data System - August 1994

NASS General Estimates System - August 1994

- ★ ***2) NCSA responded to 221 requests for statistical analyses, many of which were incorporated into critical safety documents or published. In addition to these analyses, the data analysis program responded to approximately 10,000 inquiries for crash statistics and other information.***

(In addition to the above accomplishments, a plan was developed and completed in 1994 for improving the method for tracking the number of responses to data requests processed each year. The plan will be implemented in FY 1995 and will aid in future GPRA tracking.)

Data Sources: NHTSA National Center for Statistics and Analysis

Barriers: Reductions in full time equivalent positions (FTE's) have created barriers to achieving performance in the areas of response to changing data needs in the highway safety community, quality control functions, creation of data sets in a timely manner, work with states to improve data collection, and response to customer requests. In the latter case, the number of programmers and statisticians have a direct impact on the quality, timeliness, and number of studies available to the user community. At the same time the number of FTEs has declined the number of requests from internal customers has been increasing significantly.

APPENDIX II DATA FOR MEASUREMENT

The data on outcome measures in this report are based on preliminary estimates for calendar year 1994. We will submit a short addendum report on these measures in the summer of 1995, when the data files are final. Agency outcome measures are tracked with data from the following systems:

Fatalities, Fatal Crashes: The Fatal Accident Reporting System (FARS)

FARS, which became operational in 1975, contains data on a census of fatal traffic crashes within the 50 states, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway customarily open to the public, and must result in the death of an occupant of a vehicle or a non-motorist within 30 days of the crash.

FARS data are obtained solely from the state's existing documents:

**Police Accident Reports
State Vehicle Registration Files
State Driver Licensing Files
State Highway Department Data
Vital Statistics**

**Death Certificates
Coroner/Medical Examiner Reports
Hospital Medical Reports
Emergency Medical Service Reports**

From these documents, the analysts code more than 100 FARS data elements. The specific data elements may be modified slightly each year to conform to changing user needs, vehicle characteristics, and highway safety emphasis areas. The data collected within FARS do not include any personal identifying information, such as names, addresses, or social security numbers. Thus, any data kept in FARS files and made available to the public fully conform to the Privacy Act.

Police Reported Non-Fatal Injuries, Total Crashes: The General Estimates System (GES)

GES data are obtained from a nationally representative probability sample selected from all police-reported crashes. The system began operation in 1988. To be eligible for the GES sample, a police accident report (PAR) must be completed for the crash, and the crash must involve at least one motor vehicle traveling on a trafficway and result in property damage, injury, or death. Although various sources suggest that about half the motor vehicle crashes in the country are not reported to police, the majority of these unreported crashes involve only minor property damage and no significant personal injury. By restricting attention to police-reported crashes, the GES concentrates on those crashes of greatest concern to the highway safety community and the general public.

GES data collectors make weekly visits to approximately 400 police jurisdictions in 60 sites across the United States, where they randomly sample about 45,000 PARs per year. The collectors obtain copies of the PARs and send them to a central contractor for coding. No other

data are collected beyond the selected PARs--no driver license, vehicle registration, or medical information is obtained.

GES is an accurate count of police reported crashes and injuries, given the limitations of the source. There is no question that significant numbers of crashes and injuries are missed because they are not reported to the police. A 1990 NHTSA study of the costs of motor vehicle injuries estimated the total count of non-fatal injuries at over 5 million compared to the GES estimate for that year of 3.2 million. The National Center for Statistics and Analysis plans to conduct a study in FY 1995 to assess the unreported injury problem.

Crashworthiness Data System

The Crashworthiness Data System (CDS) collects detailed information on approximately 7,000 crashes involving light passenger vehicles. CDS data support research on the crash safety of light passenger vehicles and the biomechanics of trauma; the development of test equipment, procedures, and criteria; and the development and support of motor vehicle safety standards for occupant protection, and consumer information programs.

The primary impetus behind the CDS was a need for more detailed information on how a vehicle responds in a crash, and how the interior components of the vehicle injure or protect occupants. Crashworthiness engineers and biomechanics experts need to be able to analyze the nature and severity of occupant crash injuries and relate them to:

- The characteristics of the collision including where and at what angle the vehicle is struck, the force of the impact, and the other vehicles or objects involved;**
- The structure and weight of the vehicle; and**
- The characteristics of the vehicle interior and its safety protection devices (including safety belts, head restraints, padding, steering systems, and safety glazing).**

Safety Belt Usage

The reported national average safety belt use rate for front seat positions of passenger cars is based on state surveys. To calculate the national safety belt use rate from individual state use rates, each state's rate is weighted by its share of total U.S. population. Twenty-eight states conduct surveys in which the observation sights are probability-based; NHTSA has approved these as meeting established standards of accuracy. These states comprise 72 percent of the U.S. population. The remaining states conduct surveys at convenient sites which are not randomly selected; one state uses crash reports rather than roadside observations. Some states do not conduct surveys every year; thirty four states conducted surveys in 1994.

In addition, a National Occupant Protection Use Survey (NOPUS) was conducted. This observational survey used a probability-based sample, using the same methodology nationwide, and thus, provided estimates of known accuracy. The NOPUS was able to estimate usage by Census region, but not by state. It covered passenger cars, light trucks, and vans, in front and rear seats. The NOPUS and state survey estimates are not directly comparable, however, a rough comparison of front seat outboard (driver and passenger) rates indicated 67 percent for the state surveys and 62.8 percent for the NOPUS. In this comparison, the state based estimate falls within the 95 percent confidence interval of the

NOPUS estimates. Plans for repeating the NOPUS survey will be made based on an assessment of need and resources available to perform this level of analysis. Annual estimates of belt use progress will continue to be made with state-based surveys.

Preventable Mortality

Reductions in preventable mortality rely on preventable mortality studies. These studies assess the degree to which effective emergency response and treatment decrease the mortality outcome of patients.

NHTSA Office Tracking Systems

Several of the program performance measures rely on internal office tracking systems. These include: the National Driver Register Program records system (in operation since 1960); the Office of Vehicle Safety Standards tracking system in operation for over 10 years; the Office of Market Incentives tracking system in operation since 1982; the Office of Defects Investigation computerized defect investigation tracking system in operation since 1977; and the Autosafety Hotline computerized tracking system in operation since 1981.